

## SEQUENCE LISTING

<110> Carreno, Beatriz M.  
Wood, Clive  
Turner, Katherine  
Collins, Mary  
Gray, Gary S.  
Morris, Donna  
O'Hara, Denise  
Hinton, Paul  
Tsurushita, Naoya

<120> ANTIBODIES AGAINST CTLA4 AND USES THEREFOR

<130> GNN-009CP

<140>  
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<150> 60/178,473  
<151> 2000-01-27

<160> 10

<170> PatentIn Ver. 2.0

<210> 1  
<211> 672  
<212> DNA  
<213> Homo sapiens

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gcccagcctg ctgtggtaact ggcagcagc cgaggcatcg ccagctttgt gtgtgagtat 180  
gcacatccag gcaaagccac ttaggtccgg gtgacagtgc ttccggcaggc tgacagccag 240  
gtgactgaag tctgtgcggc aacctacatg acggggaaatg agttgacctt cctagatgtat 300  
tccatctgca cgggcacctc cagtggaaat caagtgaacc tcactatcca aggactgagg 360  
gccatggaca cgggactcta catctgcaag gtggagctca tgtacccacc gccatactac 420  
ctgggcatacg gcaacgaaac ccagatttat gtaattgatc cagaaccgtg cccagattct 480  
gacttcctcc tctggatcct tgagcagtt agttcggtt tgttttttta tagctttctc 540  
ctcacagctg tttcttgag caaaatgcta aagaaaagaa gccctcttac aacaggggtc 600  
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<210> 2  
<211> 223  
<212> PRT  
<213> Homo sapiens

<400> 2  
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Thr Arg Thr Trp Pro Cys Thr Leu Leu Phe Phe Leu Leu Phe Ile Pro  
 20 25 30

Val Phe Cys Lys Ala Met His Val Ala Gln Pro Ala Val Val Leu Ala  
 35 40 45

Ser Ser Arg Gly Ile Ala Ser Phe Val Cys Glu Tyr Ala Ser Pro Gly  
 50 55 60

Lys Ala Thr Glu Val Arg Val Thr Val Leu Arg Gln Ala Asp Ser Gln  
 65 70 75 80

Val Thr Glu Val Cys Ala Ala Thr Tyr Met Met Gly Asn Glu Leu Thr  
 85 90 95

Phe Leu Asp Asp Ser Ile Cys Thr Gly Thr Ser Ser Gly Asn Gln Val  
 100 105 110

Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile  
 115 120 125

Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Leu Gly Ile Gly  
 130 135 140

Asn Gly Ala Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser  
 145 150 155 160

Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe  
 165 170 175

Tyr Ser Phe Leu Leu Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys  
 180 185 190

Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu  
 195 200 205

Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn  
 210 215 220

<210> 3  
 <211> 426  
 <212> DNA  
 <213> Mus musculus

<400> 3

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 tgcactgtct ctgggttttc attaaccagg tatgggtgtat attgggttcg ccagcctcca 180  
 gaaaagggtc tggagtggtc gggagtaata tagggctggt ggaaccacaa attataattc 240  
 ggctctatgt ccagactgag catcagcaaa gacaactcca agagccaagt tttcttaaaa 300  
 atgagcagtc tgcaaactga tgacacagcc atgtactact gtgccaggg ccccccgcac 360  
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<210> 4  
<211> 142  
<212> PRT  
<213> Mus musculus

<400> 4  
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20 25 30  
Pro Ser Gln Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu  
35 40 45  
Thr Ser Tyr Gly Val Tyr Trp Val Arg Gln Pro Pro Gly Lys Gly Leu  
50 55 60  
Glu Trp Leu Gly Val Ile Trp Ala Gly Gly Thr Thr Asn Tyr Asn Ser  
65 70 75 80  
Ala Leu Met Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln  
85 90 95  
Val Phe Leu Lys Met Ser Ser Leu Gln Thr Asp Asp Thr Ala Met Tyr  
100 105 110  
Tyr Cys Ala Arg Gly Pro Pro His Ala Met Met Lys Arg Gly Tyr Ala  
115 120 125  
Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Ile Val Ser Ser  
130 135 140

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<211> 384  
<212> DNA  
<213> Mus musculus

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gttcgcttca gtggcagtgg gtctggacc tcttactctc tcacaatcag ccgaatggag 300  
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<210> 6  
<211> 128  
<212> PRT  
<213> Mus musculus

&lt;400&gt; 6

Met Asp Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser  
1 5 10 15

Val Ile Leu Ser Arg Gly Gln Asn Val Leu Thr Gln Ser Pro Ala Ile  
20 25 30

Met Pro Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Thr  
35 40 45

Ser Ser Ile Thr Tyr Met Ser Trp Tyr Gln Gln Lys Ser Gly Ser Ser  
50 55 60

Pro Arg Leu Leu Ile Tyr Asp Thr Ser Asn Leu Ala Ser Gly Val Pro  
65 70 75 80

Val Arg Phe Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile  
85 90 95

Ser Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp  
100 105 110

Ser Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
115 120 125

&lt;210&gt; 7

&lt;211&gt; 413

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:Humanized mouse

&lt;400&gt; 7

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catactgtcc agaggagata tccagatgac ccagtcctca tcctccctat ccgcattcg 120  
ggggacaggg tcaccataac ctgttagtgcc acctcaagta taacttacat gtcctgtatc 180  
agcagaagcc aggaaaggct cccaagcttc tgatttatga cacatccaac ctggctctgg 240  
ggtaccttagc cgcttcagtg gcagtgggtc tgggaccgac tacacactca caatagcagc 300  
ctgcagccag aagattttgc cacttattac tgccagcagt ggagtagtta cccctcacgt 360  
tcggtgagg gaccaagggtt gagataaaac gtaagtagaa tccaaagtct aga 413

&lt;210&gt; 8

&lt;211&gt; 128

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:Humanized mouse

&lt;400&gt; 8

Met Asp Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser  
1 5 10 15

- 5 -

Val Ile Leu Ser Arg Gly Asp Ile Gln Met Thr Gln Ser Pro Ser Ser  
20 25 30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Ser Ala Thr  
35 40 45

Ser Ser Ile Thr Tyr Met Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala  
50 55 60

Pro Lys Leu Leu Ile Tyr Asp Thr Ser Asn Leu Ala Ser Gly Val Pro  
65 70 75 80

Ser Arg Phe Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile  
85 90 95

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp  
100 105 110

Ser Ser Tyr Pro Leu Thr Phe Gly Gly Thr Lys Val Glu Ile Lys  
115 120 125

<210> 9  
<211> 460  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:Humanized mouse

<400> 9  
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tcctgtccca ggtgcagctg caagagtca gacctggcct ggtgaagccc tcacagacac 120  
tgtccttgac ttgcactgtc tctgggtttt cattaacctc atatggtgta tattgggttc 180  
gccagcctcc aggaaagggt ctggagtgcc tgggagtaat atgggctggt ggtaccacaa 240  
attataattc ggctctcatg tccagactga caatcagcaa agacacatcc aagaaccaag 300  
tttccttaaa actcagcagt gtgactgcag cggacacagc cgtctactac ttgtcccgag 360  
gcccccccga cgctatgatg aagagaggct atgctatgga ctactgggaa caaggaaccc 420  
tagtcacagt ctcctcaggt gagtccttaa aacctctaga 460

&lt;210&gt; 10

&lt;211&gt; 142

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:Humanized mouse

&lt;400&gt; 10

Met Ala Val Leu Val Leu Phe Leu Cys Leu Val Ala Phe Pro Ser Cys  
1 5 10 15

Val Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys  
20 25 30

Pro	Ser	Gln	Thr	Leu	Ser	Leu	Thr	Cys	Thr	Val	Ser	Gly	Phe	Ser	Leu
35							40							45	
Thr	Ser	Tyr	Gly	Val	Tyr	Trp	Val	Arg	Gln	Pro	Pro	Gly	Lys	Gly	Leu
50						55						60			
Glu	Trp	Leu	Gly	Val	Ile	Trp	Ala	Gly	Gly	Thr	Thr	Asn	Tyr	Asn	Ser
65					70					75					80
Ala	Leu	Met	Ser	Arg	Leu	Thr	Ile	Ser	Lys	Asp	Thr	Ser	Lys	Asn	Gln
						85			90					95	
Val	Ser	Leu	Lys	Leu	Ser	Ser	Val	Thr	Ala	Ala	Asp	Thr	Ala	Val	Tyr
							100		105				110		
Tyr	Cys	Ala	Arg	Gly	Pro	Pro	His	Ala	Met	Met	Lys	Arg	Gly	Tyr	Ala
							115		120			125			
Met	Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser		
							130		135			140			